

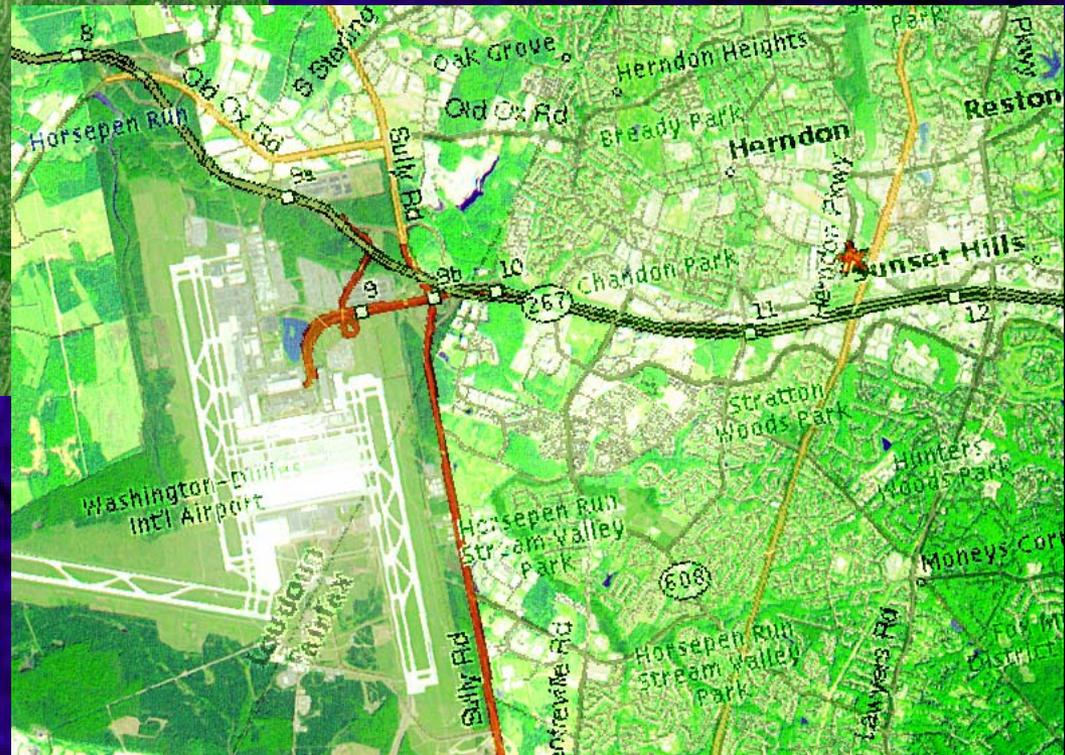
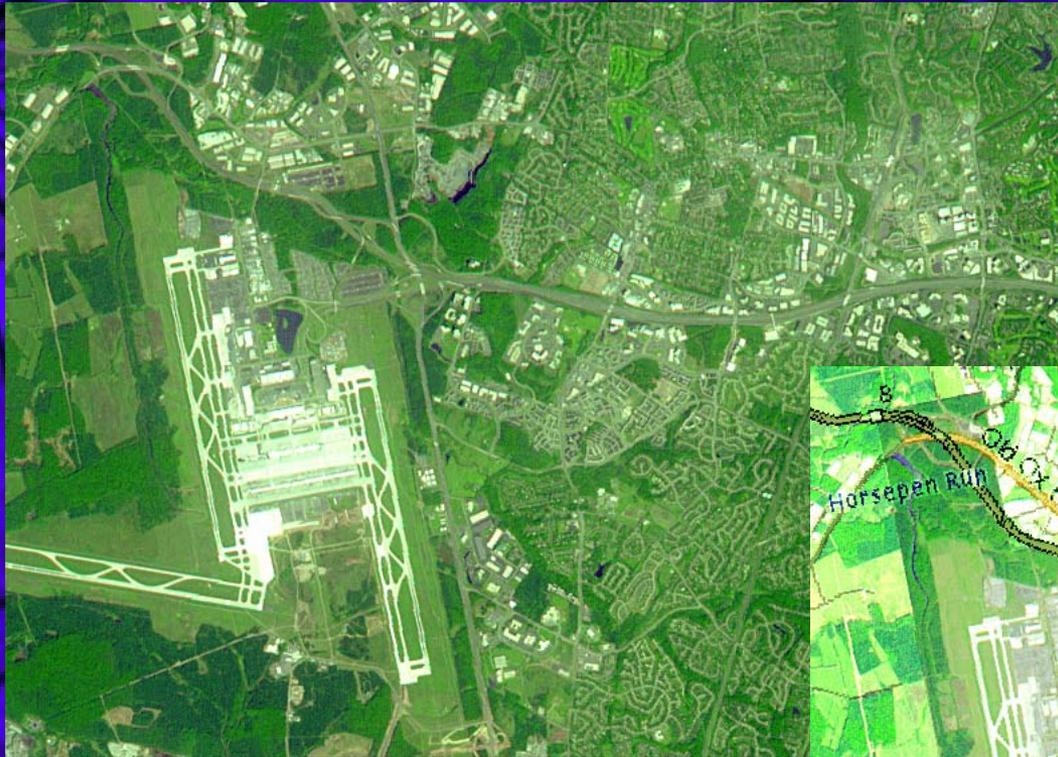
# ASTER Science Team Report



Michael Abrams, JPL

LPDAAC Advisory Panel, September 2003

# Spring Hill Suites & USGS



Michael Abrams, JPL

LPDAAC Advisory Panel, September 2003

# Outline

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- ❖ **Recompete**
- ❖ **Data Acquisitions**
- ❖ **Expedited Data**
- ❖ **Software**
- ❖ **Lunar Calibration**
- ❖ **ASTER Web Site**
- ❖ **World Parks Congress**

# US ASTER Team Leader

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*Anne Kahle retired August 15!!!*



*Help!*



*Mike Abrams took over*

Michael Abrams, JPL

LPDAAC Advisory Panel, September 2003

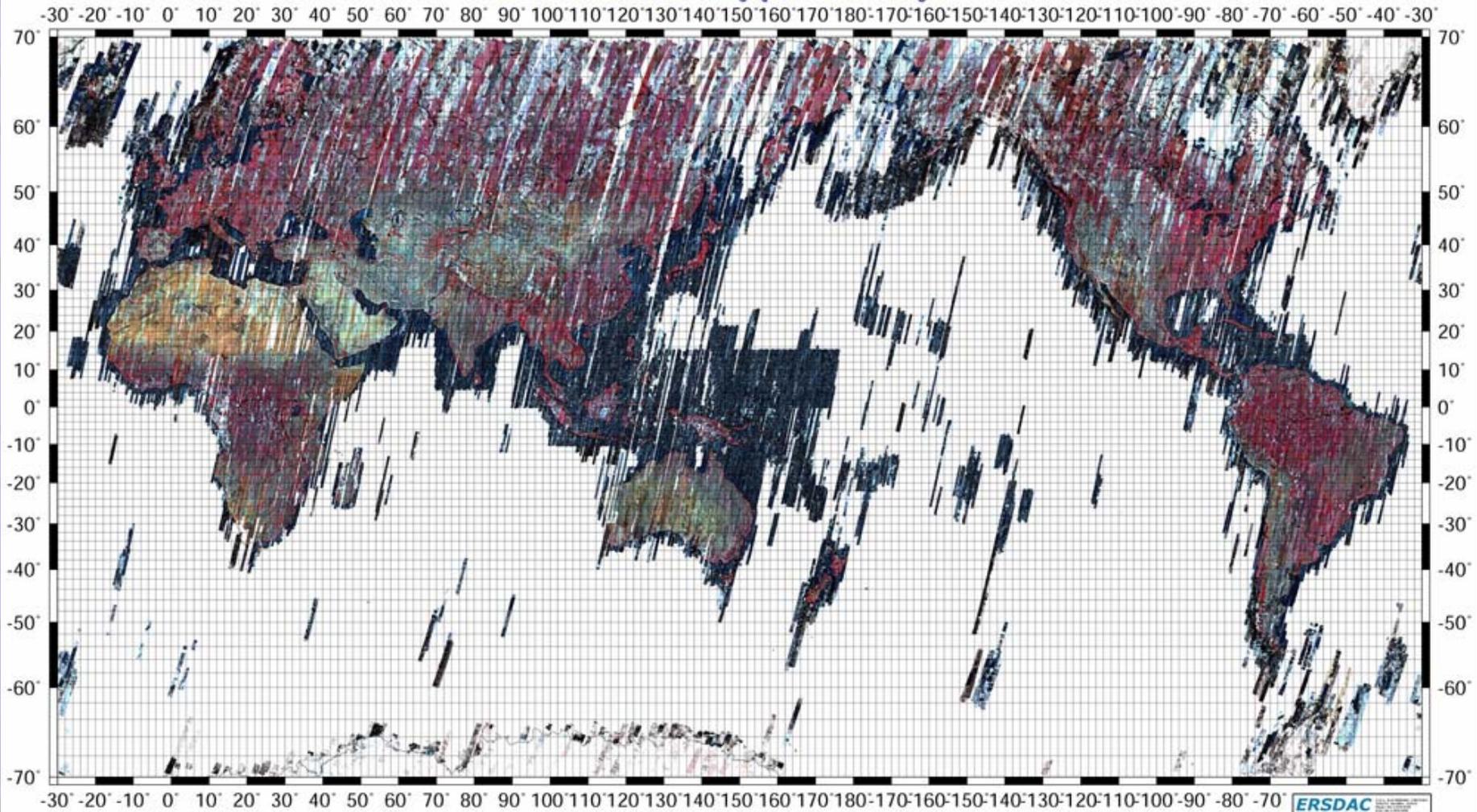
# ASTER Re-compete

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- ❖ Team Leader proposal submitted in May
- ❖ All current US team members had to re-propose
- ❖ New AST will be selected by NASA
- ❖ Announcement of results in October?????

# ASTER Data Acquisitions

ASTER Browse Map (as of 13 Oct. 2002)



ERSDAC

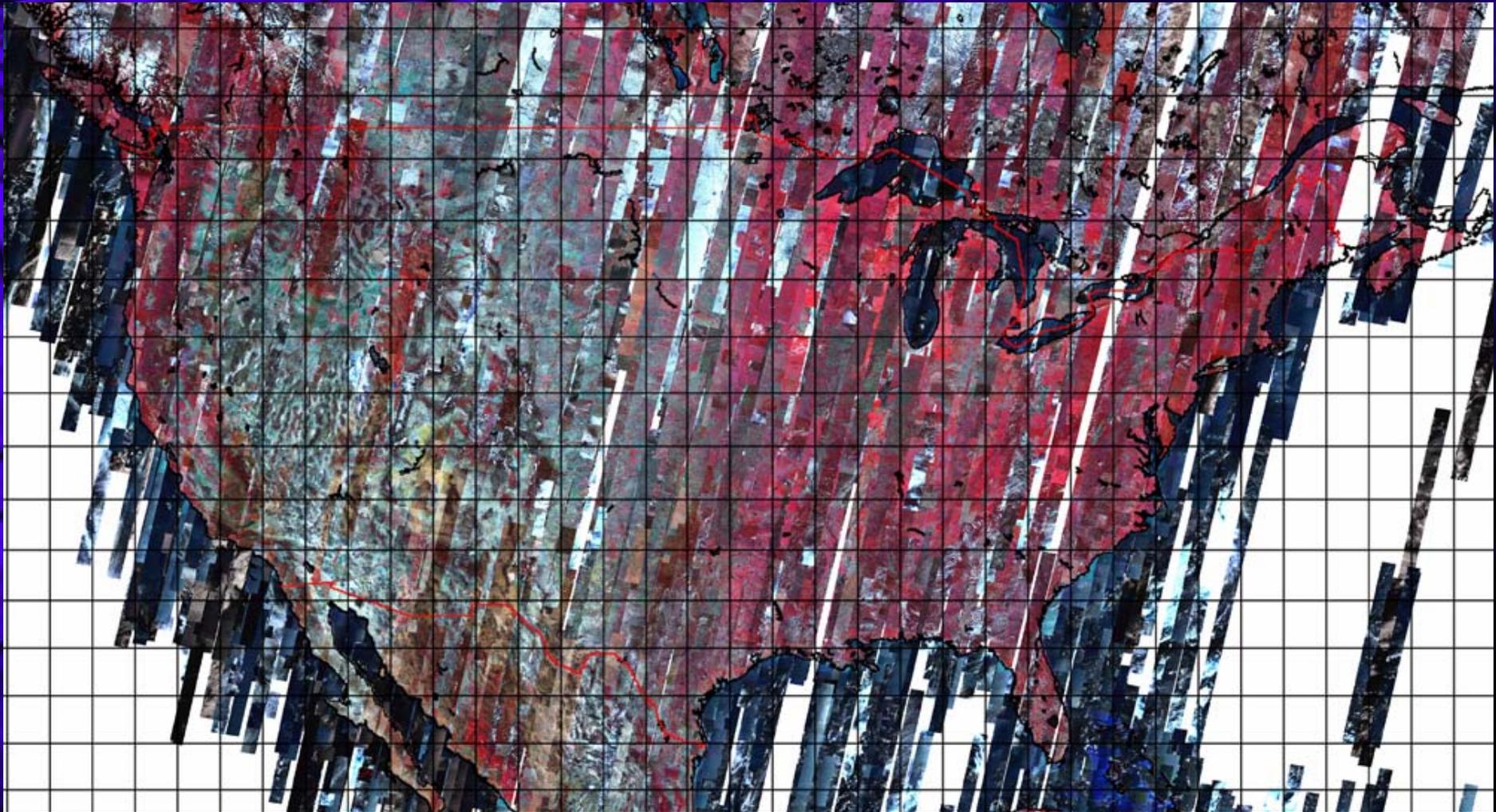


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# ASTER Data Acquisitions

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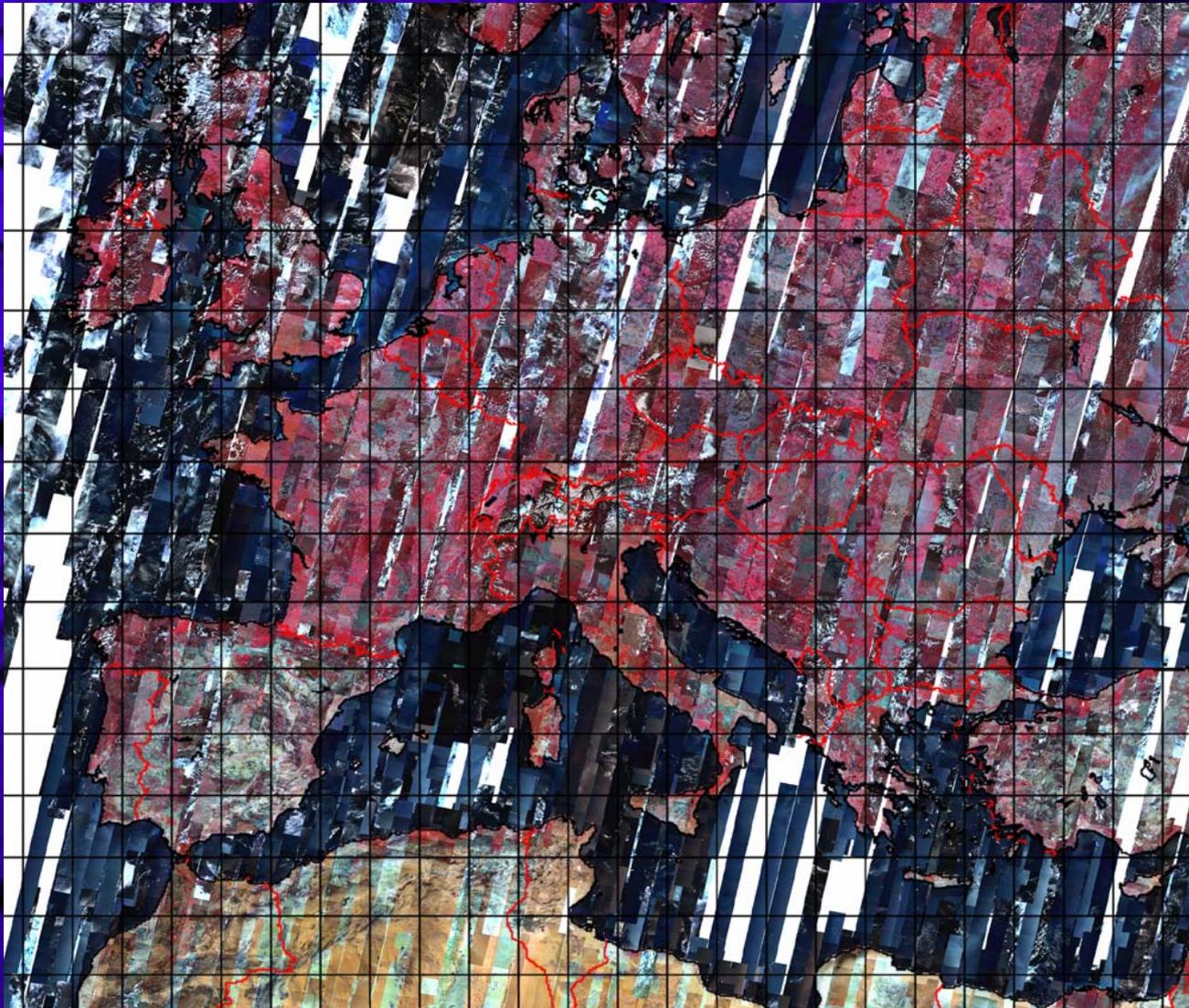


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# ASTER Data Acquisitions

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# ASTER Data Acquisitions

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- ❖ Over 1,000,000 scenes acquired
- ❖ 2<sup>nd</sup> Global Map planned
- ❖ LPDAAC began processing all L1A scenes to L1B from launch to January 2002

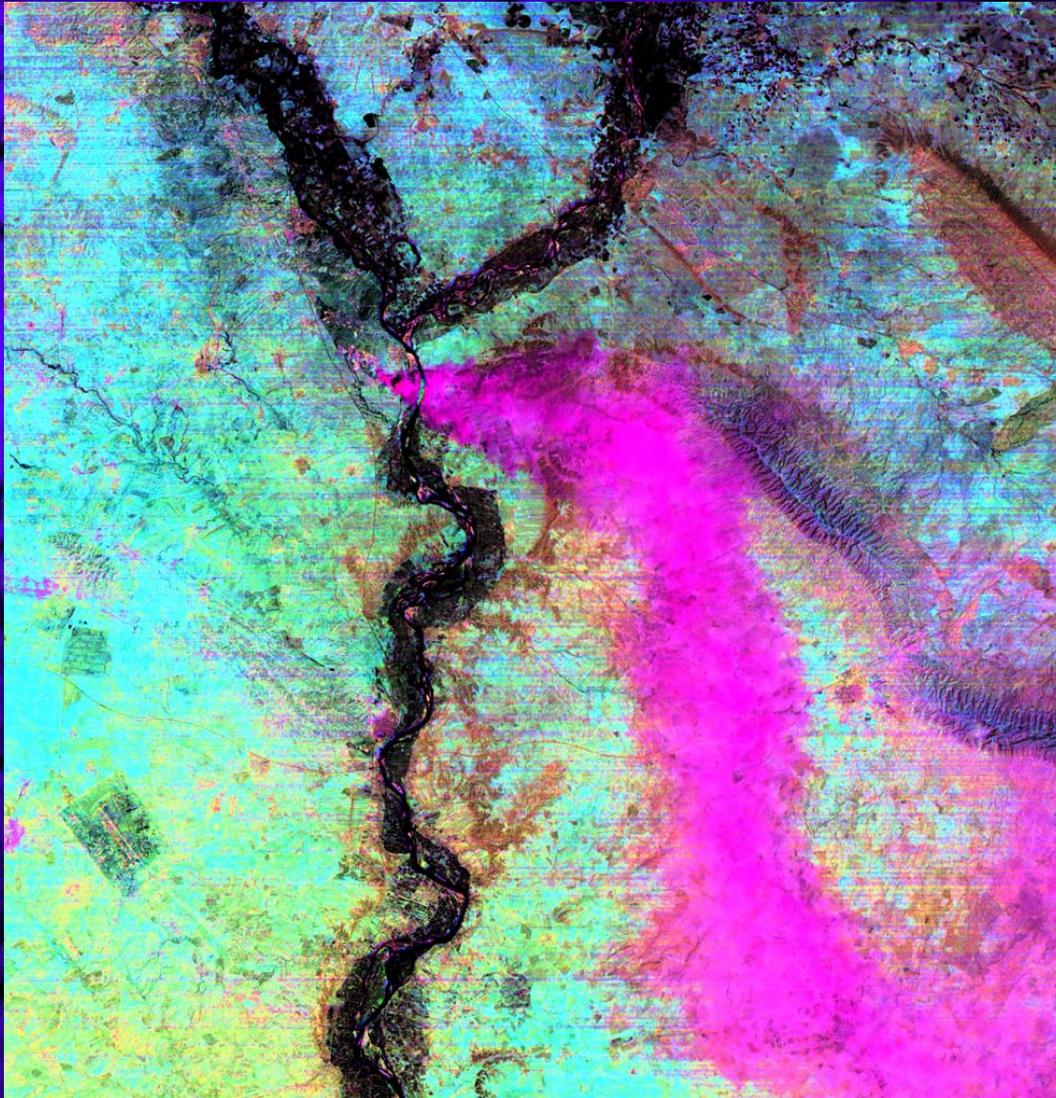
# ASTER Expedited Acquisitions

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	<b>Field campaigns</b>	<b>Fires</b>	<b>Floods, earthquakes</b>	<b>DoD, other</b>
<b>June</b>	<b>5</b>	<b>4</b>	<b>6</b>	<b>3</b>
<b>July</b>	<b>18</b>	<b>6</b>	<b>10</b>	<b>9</b>
<b>August</b>	<b>18</b>	<b>14</b>	<b>0</b>	<b>19</b>

# ASTER Expedited Acquisitions

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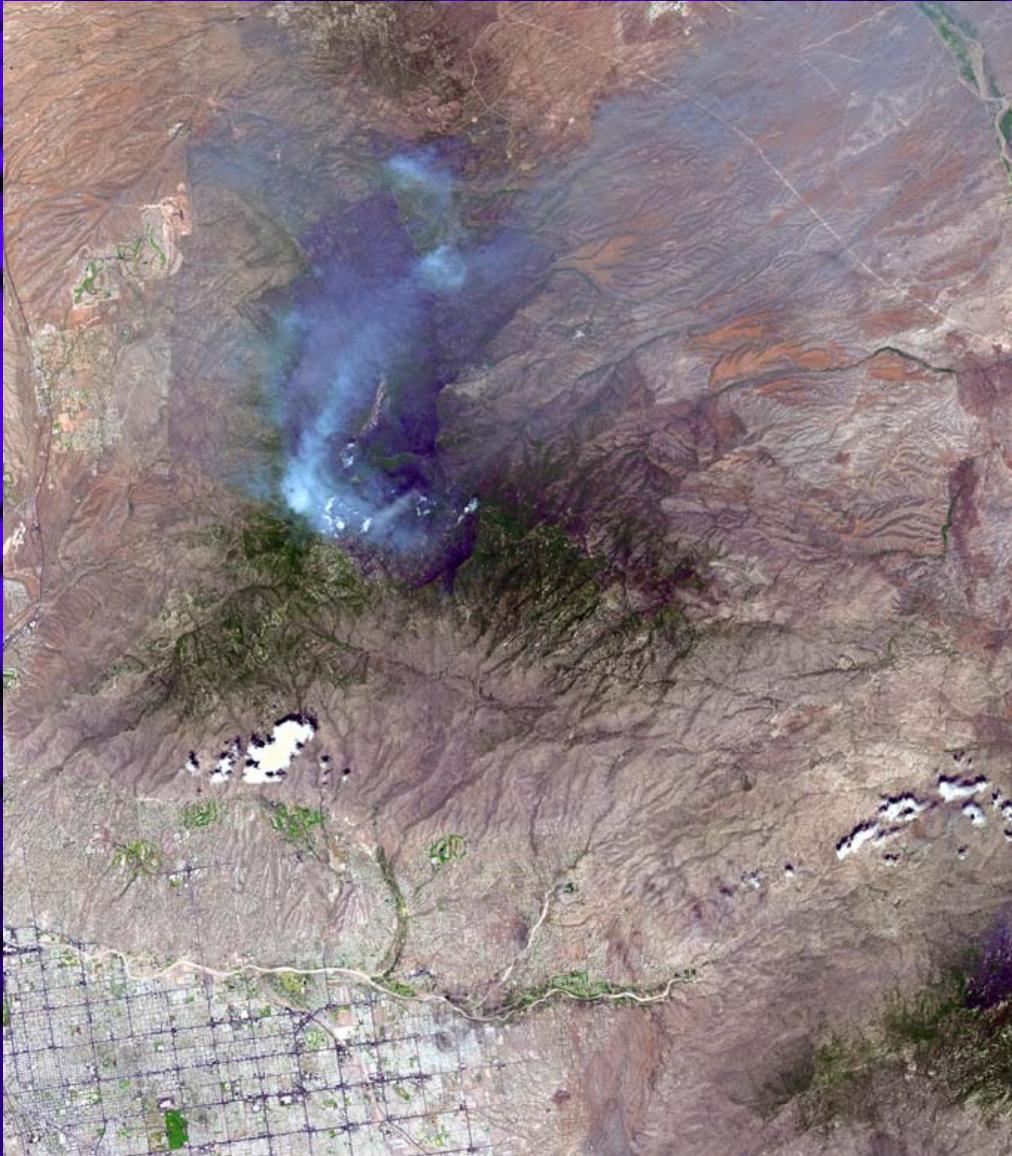
Sulfur industrial plant fire near Baghdad. Plume is SO<sub>2</sub> as identified by ASTER TIR bands.

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LPDAAC Advisory Panel, September 2003

# ASTER Expedited Acquisitions

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Aspen fire north  
of Tucson, AZ.

Michael Abrams, JPL

LPDAAC Advisory Panel, September 2003

# ASTER Software Developments

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- ❖ **SWIR cross-talk fix in next delivery of L2**
- ❖ **TIR smoothed calibration in next delivery of L2**
- ❖ **VNIR/SWIR calibration adjustments in future delivery**
- ❖ **Preparing for revised MISR aerosol product**
- ❖ **Final evaluation of MODIS water vapor profiles**

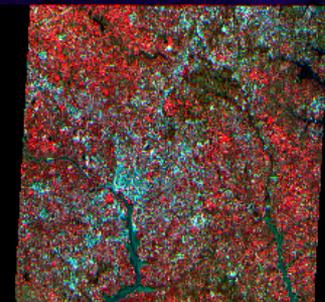
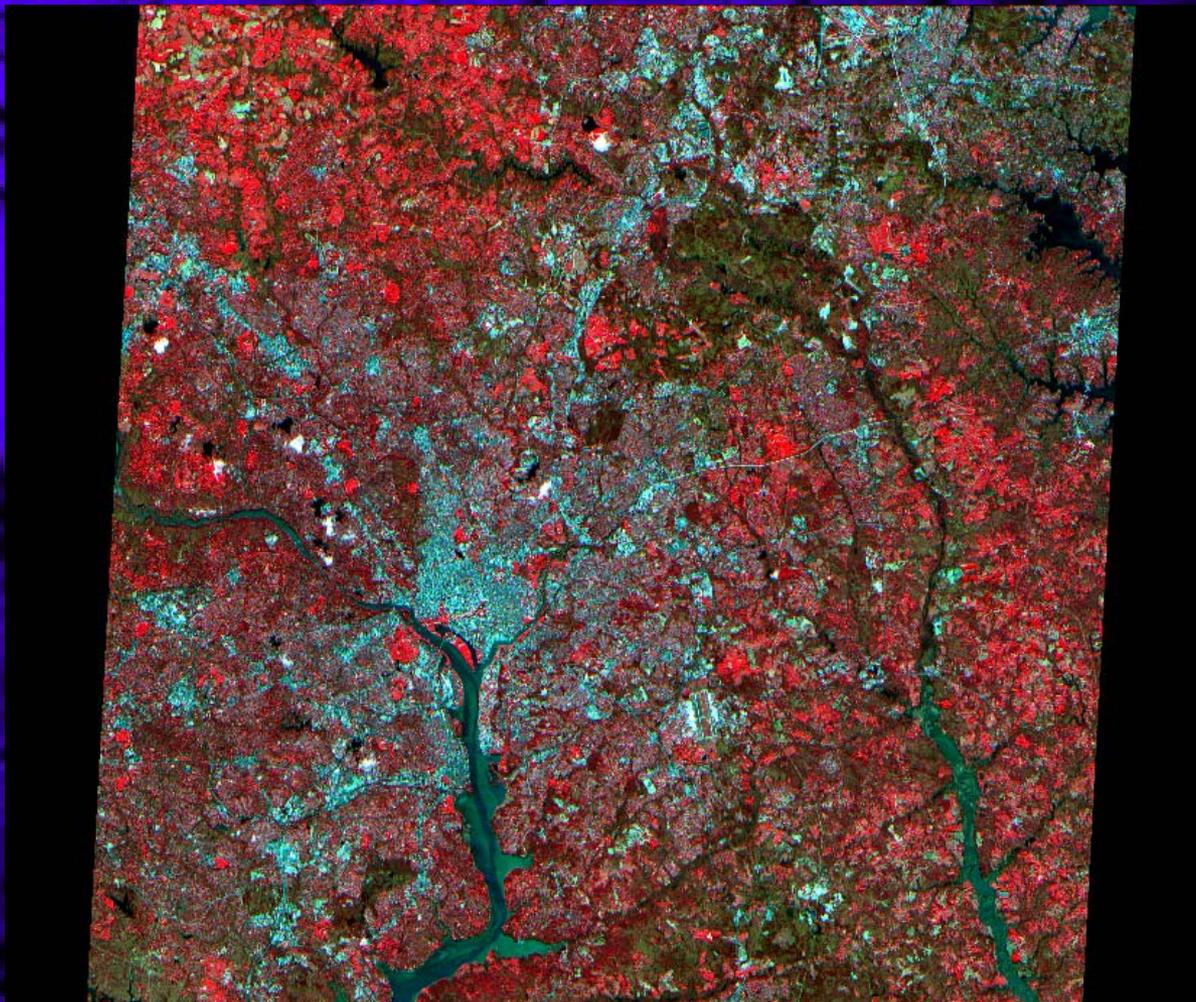
# ASTER Software Developments

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- ❖ **Discussing Level 1 data adjustments with HQ and ESDIS**
- ❖ **3 options identified for implementation**
- ❖ **JPL web-based tool is AST preference**
- ❖ **Nature of adjustments:**
  - **Radiometric smoothing to TIR coefficients**
  - **SWIR cross-talk**
  - **Radiometric adjustments to VNIR/SWIR calibration**
  - **2 geo-coordinate adjustments**

# New ASTER Browse

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Old = 249 x 210

New = 830 x 700

# ASTER Lunar Calibration: April

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**Visible channel of  
moon, corrected for  
non-unity aspect ratio**

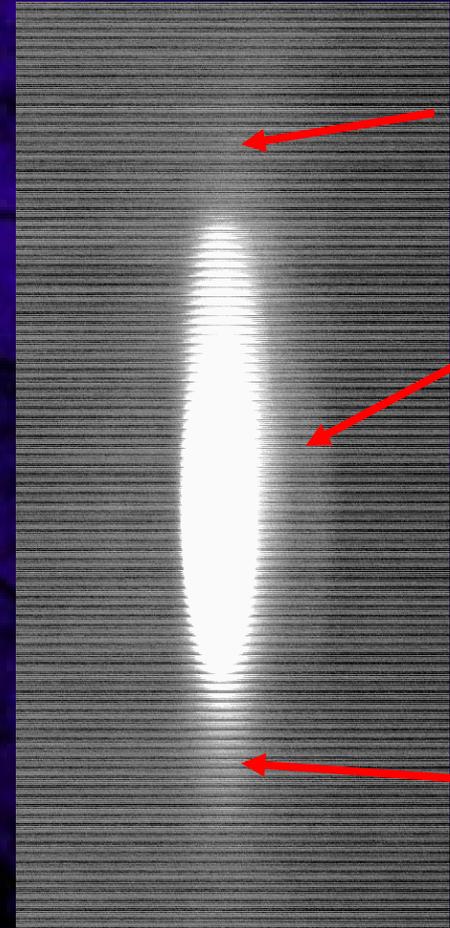
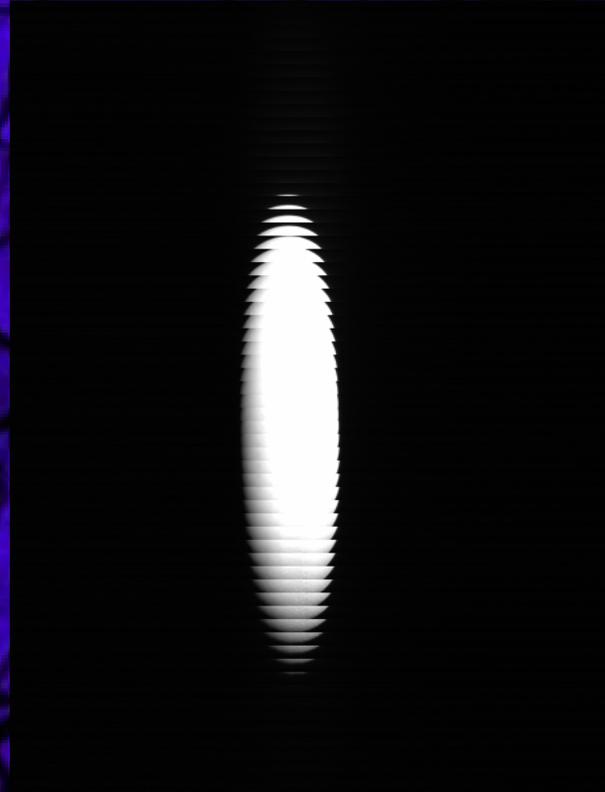
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# ASTER Lunar Calibration: April

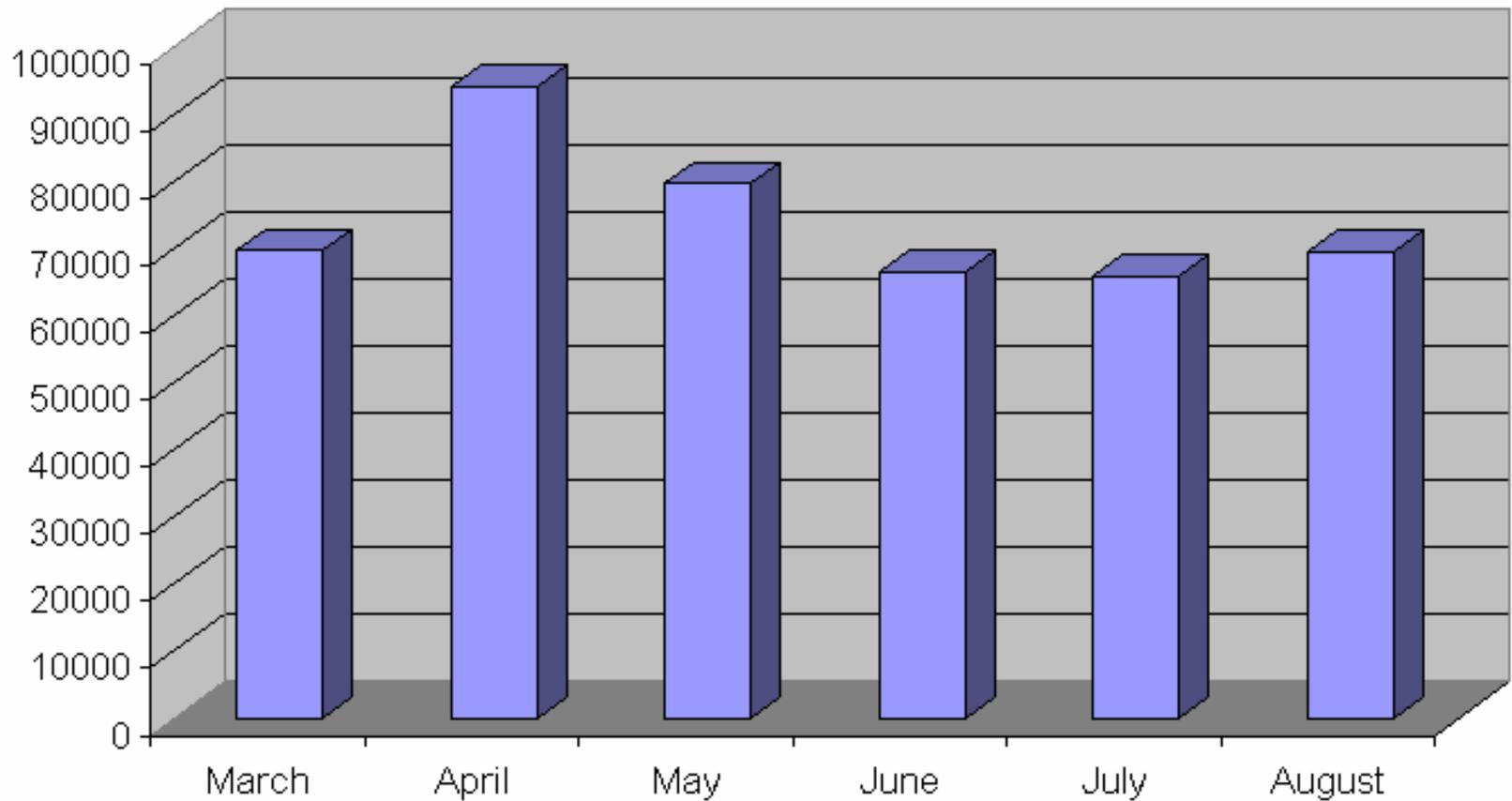
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**Discovery of ghost images in TIR bands; previously unknown internal reflections in telescope; magnitude is barely above noise level**



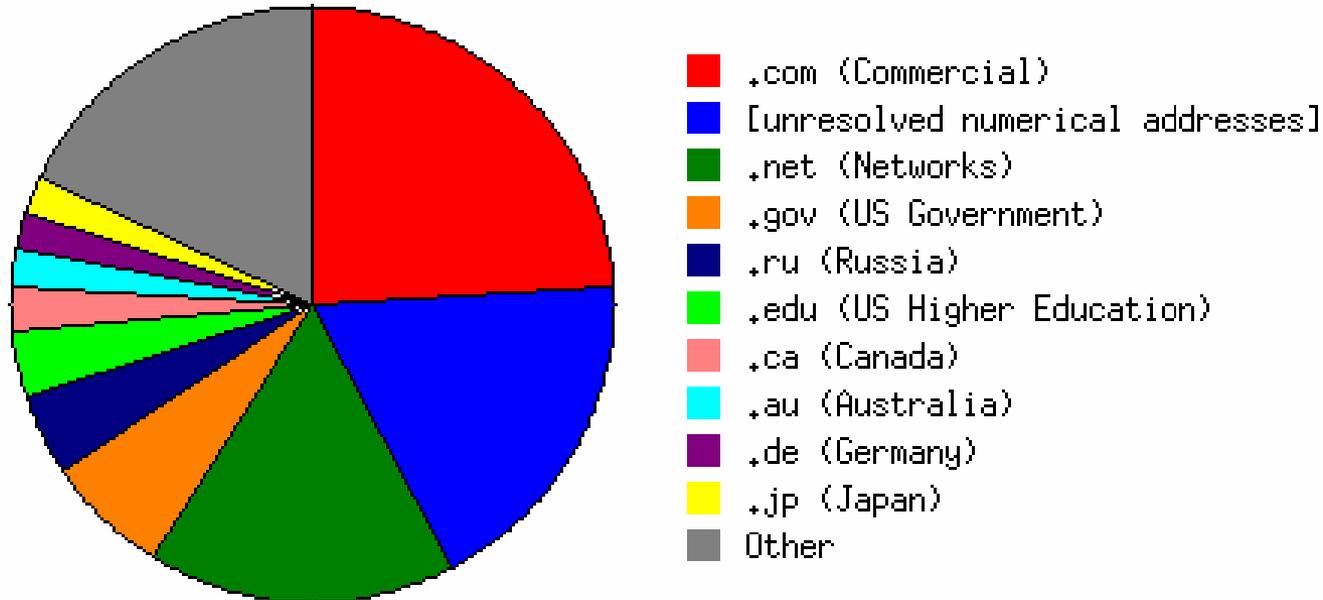
# ASTER Web Site

## ASTER Web Site Page Hits



# ASTER Web Site

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The wedges are plotted by the amount of traffic.

# ASTER Web Site Image Gallery

## *ASTER's* Satellite Image Gallery

### Volcanoes



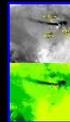
Andean volcano heats up



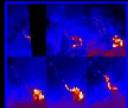
Andes Mts., Chile - Bolivia



Composite of Soufriere Hills and Mt. Etna



Eruption of Shiveluch Volcano, Kamchatka Peninsula, Russia



Hawaii Lava Flows



Lava flows, Mt. Etna, Italy



Miyake-Jima, Japan



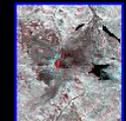
Mt. Etna, Italy



Mt. Fuji, Japan Flyby Animation



Mt. St. Helens



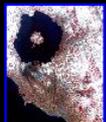
Mt. St. Helens



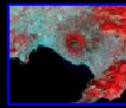
Mt. St. Helens Flyby Animation



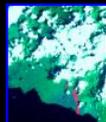
Mt. Usu, Japan



Mt. Usu, Japan



Mt. Vesuvius, Italy



Nyiragongo Eruption in Congo

<a href="#">JPL HOME</a> <a href="#">EARTH</a> <a href="#">SOLAR SYSTEM</a> <a href="#">STARS &amp; GALAXIES</a> <a href="#">TECHNOLOGY</a>			
 <span style="float: right;">Jet Propulsion Laboratory California Institute of Technology</span>			
<a href="#">HOME</a> <a href="#">IMAGES</a> <a href="#">INSTRUMENT</a> <a href="#">DATA PRODUCTS</a> <a href="#">OBTAINING DATA</a> <a href="#">NEWS</a> <a href="#">LINKS</a>			
#	Name	Hits	Date
1	<a href="#">Paris</a>	20,852	10/22/2001
2	<a href="#">Great Wall of China</a>	18,465	10/22/2001
3	<a href="#">Mt. St. Helens</a>	18,277	10/22/2001
4	<a href="#">Mt. Vesuvius, Italy</a>	16,038	10/22/2001
5	<a href="#">Mt. Fuji, Japan</a>	15,615	10/22/2001
6	<a href="#">Perspective view over the Grand Canyon, Arizona</a>	13,593	10/22/2001
7	<a href="#">Santorini, Greece</a>	13,526	10/22/2001
8	<a href="#">Istanbul</a>	12,641	10/22/2001
9	<a href="#">Tokyo</a>	12,581	10/22/2001
10	<a href="#">Suez Canal, Egypt</a>	12,185	10/22/2001
11	<a href="#">Lava flows, Mt. Etna, Italy</a>	11,610	10/22/2001
12	<a href="#">Biscuit Fire, Oregon</a>	11,118	8/16/2002
13	<a href="#">2002 Olympic Winter Games - Salt Lake City</a>	10,910	2/6/2002
14	<a href="#">San Francisco</a>	10,143	10/22/2001
15	<a href="#">Madrid</a>	9,529	10/22/2001
16	<a href="#">Machu Picchu, Peru</a>	9,239	7/31/2002
17	<a href="#">Yangtze River and Three Gorges Dam</a>	8,581	10/22/2001
18	<a href="#">Lake Garda, Italy</a>	8,533	10/22/2001
19	<a href="#">Nasca Lines, Peru</a>	8,373	10/22/2001
20	<a href="#">Sulfur dioxide plume, Mt. Etna, Italy</a>	8,097	10/22/2001

Michael Abrams, JPL

LPDAAC Advisory Panel, September 2003



# World Parks Congress

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Decadal meeting of World Parks Congress in Durban, South Africa Sept. 7-17. AST organized NASA exhibition, featuring ASTER data for Protected Areas and National Parks. We developed demo CD for park managers with map applets and ASTER scenes.